DOCUMENT RESUME

ED 115 387 PS 008 224

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TITLE The Australian Aboriginal Child: Bibliography and Abstracts. Part I: Physical and Intellectual Development.
PUB DATE Apr 75
NOTE 19p.

EDRS PRICE MF-$0.76 HC-$1.58 Plus Postage
DESCRIPTORS *Annotated Bibliographies; Classification; Developmental Tasks; *Early Childhood Education; *Foreign Countries; Health; *Intellectual Development; Intervention; Language Development; Nature Nurture Controversy; *Physical Development; Preschool Programs; Program Descriptions; Thought Processes
IDENTIFIERS *Australian Aborigines

ABSTRACT

This abstract bibliography concentrates on aspects of the physical and intellectual development of the Australian Aboriginal child, although educational, sociological and other issues are also raised in a number of the entries included. Most of the 57 entries are journal articles, although some are book chapters, reports and conference papers. A brief introduction to the bibliography outlines the major issues discussed and the entries in which these issues are raised. Generally, the alphabetically arranged bibliography consists of entries related to: (1) physical development and health; (2) the preschool intervention project at Bourke (including philosophy, method, and summary of the project; first-year and follow-up results; and criticisms); (3) language development; (4) conservation and classification studies; (5) discussion of the nature/nurture controversy as it pertains to the Australian Aboriginal child; and (6) intellectual development and thought processes. (ED)

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THE AUSTRALIAN ABORIGINAL CHILD

BIBLIOGRAPHY AND ABSTRACTS

PART I: PHYSICAL AND INTELLECTUAL DEVELOPMENT

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APRIL 1975.

ED008224

This is a collection of abstracts relating to some aspects of the development of the Australian Aboriginal Child. It is intended for students taking the Child Studies course at State College of Victoria, Toorak, to use as a reference and resource for projects and follow-up reading. Its concentration is on aspects of the physical and intellectual development of children although educational, sociological and some more peripheral issues arise in a number of the papers and reports included.

In all cases where abstracts have previously been made, either by the authors as part of the papers or reports or appearing in Psychological Abstracts or ERIC Research in Education these have been used and acknowledged.

The abstracts have been listed in alphabetical order rather than grouped according to subject matter. This has been done as a number of papers cover a variety of issues. The main areas of concern of the papers included are briefly discussed below. The number in brackets refers to the serial number of the paper or report as listed in this collection.

Of the articles included which relate to physical development and health, Abbie (1) looks at the physical standards of nomadic Aboriginal children, Browne and Barrett (3) at stature, Kettle (33) at weight and height development, Stuart, Quayle, Lewis and Harper (48) at general health, and in particular, hearing, whilst both Moodie (40) and Kirke (34) discuss mortality and morbidity. Edwards (29) reports a survey of the school children with particular reference to malnutrition, and Edwards and Craddock (30) report results which they claim support the hypothesis that malnutrition has caused a specific defect in intellectual development among subjects in their sample.

A number of the abstracts relate to articles and reports on the pre-school project at Bourke in N.S.W. a project which began as an intervention based on the deprivation model. The argument concerning the alleged genetically determined difference in intelligence between whites and blacks arises as an issue in some of these papers. Moffit and Nurcombe (37) discuss the principles followed in the establishment of the preschool, Nurcombe (41) and Nurcombe and Moffit (46)discuss the problem of fringe-dwellers and highlight the lack of pre-schooling as a special problem area, Moffit, Nurcombe, Passmore and McNeilly (38) give results of the first year's program whilst de Lacey, Nurcombe, Taylor and Moffit (20) give results of a follow-up study of these children in primary school. Nurcombe, de Lacey, Moffit and Taylor (45) summarize the first three years of the project. The ethics of this intervention program are discussed by Taylor, Nurcombe and de Lacey (54). Kerr (32) makes some criticisms of the Bourke project both in terms of the philosophy and method, whilst Gracey (31) makes some general comments and Nurcombe (44) replies to the criticism.

Two of the abstracts, Bruce, Hengveld and Radford (4) and de Lemos (24) relate to the testing during the Victorian Aboriginal Education Project carried out by the Australian Council for Educational Research, whilst Scott and Darbyshire (47) report the Van Leer pre-school program initiated in Victoria and discuss a number of very important issues.

The Queensland Education Department Van Leer Project (25, 26) report on language development and associated programs, whilst language is also the major concern of two papers by Drinkwater (27, 28). Also in the language area are studies related to the Illinois Test of Psycholinguistic Abilities by Teasdale and de Vries (56) and Katz (55). Scott and Darbyshire (47, p. 98 et Seq.) make some criticisms of the test.

A number of studies discuss conservation tasks including de Lemos (22, 23) and Dasen (6, 8, 11). Vetta (57) makes some criticisms of the de Lemos study.

Classification tasks are the major variables in a number of studies by de Lacey (14, 15, 16, 17, 18, 19) and by Taylor, Nurcombe and de Lacey (53).

Two studies using the Porteous Maze are included viz David (12) and David and Bochner (13). A number of early studies using the Porteous Maze are reported in Kearney, G.E., Early psychological studies, in Kearney, G.E., de Lacey, P.R., and Davidson, G.R. The Psychology of Aboriginal Australians, 1973 Wiley pp. 16-26. The question of intellectual development is specifically discussed by McElwain and Kearney (35).

A number of papers discuss, at least to some extent, the inheritance versus environment question. Included amongst these are Darbyshire and Scott (5), Dasen (8, 9, 11), Dasen, de Lacey and Seagrim (10), de Lacey (15, 16, 18, 19), de Lemos (22, 23), Gracey (31), Kerr (32), McElwain (36), McElwain and Kearney (35), Nurcombe (44), Nurcombe, de Lacey, Moffit and Taylor (45) and Vetta (57). Divergent thinking and/or creativity are discussed by de Lacey and Taylor (21) , Taylor and de Lacey (49, 50) and Taylor, de Lacey and Nurcombe (52). Precausal and paracausal thinking is the major concern of Nurcombe (42).

The Peabody Picture Vocabulary Test is used in a number of studies. Taylor, de Lacey and Nurcombe (51) assess its reliability for Australian children. Scott and Darbyshire (47, pp. 92-97) are critical of its validity for preschool children.

1. ABBIE, A.A. Physical standards of nomadic Aboriginal children.

   The Medical Journal of Australia. 1974, 1, 470-471.

   Figures are given for stature, weight and head circumference in 445 male and 424 female Aboriginal children ranging in age from newborn to 20 years, and comparisons are made with children of other peoples. It seems probable that in a normal season nomadic children enjoyed a better diet than those brought up under partial acculturation. (Journal abstract)

2. BOCHNER, S. and DAVID, K.H.Delay in gratification, age and intelligence in an Aboriginal culture. International Journal of Psychology. 1968, 3, 3, 167-174.

   48 7-15 year old Ss from Areyonga, an Aboriginal settlement in the Northern Territory of Australia, showed no association between age and delay of gratification and exhibited a negative association between intelligence and delay of gratification. Both findings were counter to expectation and suggest the explanation that in a society to which the next source of food is totally uncertain, "the more intelligent action is to take what is offered when it is available." (Psychological Abstracts).

3. BROWN, T. and BARRETT, M.J. Growth in Central Australian Aborigines: Stature. The Medical Journal of Australia. 1971, 2, 29-33.

   Centile curves for height attained from age five and one-half years to maturity were derived from stature measurements recorded between 1961 and 1969 in a longitudinal growth study of Aboriginal children living under settlement conditions at Yuendumu in the Northern Territory of Australia. There was little difference in stature between boys and girls up to age 8 years. Girls were taller than boys between ages 8 and 14 years. Boys were taller than girls after age 14 years. Aboriginal boys were found to be a little shorter than British boys of corresponding age. Aboriginal girls from age 6 years to maturity were found to be about the same height as British girls of corresponding age. (Journal abstract).

4. BRUCE, D.W., HENGEVELD, M. and RADFORD, W.C. Some Cognitive Skills in Aboriginal Children in Victorian Primary Schools. Progress Report 2. Australian Council for Educational Research, 1971.

   Includes results from groups of Aboriginal and Australian-born non-Aboriginal children matched by sex, age, school and grade, as well as from a larger group of Aboriginal, white-Australian and migrant children, some of whom could not be matched with children in other groups. All told, one or other of the tests used in the study (ITPA, PPVT, Piaget-type tests of conservation, Assessment of Children's Language Comprehension Test, and the Boehm Test of Basic Concepts) was taken by 157 Aboriginal, 128 white-Australian, and 62 migrant children in 16 schools. They were not random samples. In making up the matched groups the numbers concerned were considerably reduced and no attempt was made to use the small number of migrants. Of the tests used - the principal ones being the ITPA and tests of length and area - it appears that on the average the Aboriginal Children do less well than matched Australian born non-Aboriginal children. As the differences exist between children in the lowest school grades as well as elsewhere, there appears to be a need for widening the experience of Aboriginal children before they enter school, and for remedial work with them as soon as they enter school, if the differences between averages is to be attacked.

5. DARBYSHIRE, M. and SCOTT, P.M. Some cultural factors related to cognitive functioning. Australian Journal of Mental Retardation. 1970, 1, 2, 40-45.

Attempts to highlight a few of the issues arising out of current theory and research relevant to the topic of cultural differences in cognitive functioning. Points discussed are: Cognitive development, significant cross-cultural differences in cognitive functioning, subcultural and ethnic group differences in cognitive functioning, hypotheses advanced to account for the cross-cultural (and subcultural) differences in cognitive functioning, the antecedents of child practices, subcultural and ethnic group differences in cognitive functioning in Australian society, and intervention efforts to change/improve the course of cognitive development. Also, discussed is the development of cognitive functioning in Aboriginal children. (Psychological Abstracts).

6. DASEN, P.R. The development of conservation in Aboriginal Children: A replication study. International Journal of Psychology. 1972, 7, 75-85.

90 full-blooded and part Aboriginal Ss of similar background, 10 of each age from 6-12 yr and 5 each from 13-16 yr, performed conservation tasks similar to those used in an earlier study by de Lemos. Results on qualitative aspects of operative development confirm what de Lemos had found earlier, that European and Aboriginal children do not differ in qualitative aspects, although developmental rhythm tends to be slower for Aboriginal Ss. Replication results show no quantity-weight reversals or genetic differences in acquiring concrete operations (revealed through Chi-Squared values) for the divergent findings of the two studies on quantity-weight reversal, and influence of family genetics is considered an open issue. (Psychological Abstracts).

7. DASEN, P.R. Cross-cultural Piagetian research: A summary. Journal of Cross-Cultural Psychology. 1972, 3, 23-39.

Classifies Piagetian research studies into descriptive and quasi-experimental. Descriptive studies are seen as an attempt to verify Piaget's developmental stages in non-Western culture. Most have verified the qualitative aspects, e.g. the stages and individual reactions to the tasks. Cultural factors were found to affect the rate of operational development, but more research is needed before these findings can be linked to specific cultural factors. (Psychological Abstracts).

8. DASEN, P.R. Piagetian research in Central Australia. In Kearney, G.E., de Lacey, P.R. and Davidson, G.R. The Psychology of Aboriginal Australians. 1973, John Wiley, pp. 89-96.

Study designed to replicate the conservation study of de Lemos (q.v.), to further assess the influence of the factor of European contact as shown in de Lacey's classification studies and to assess the relative development of logico-mathematical operations and of spacial relations. Ss were 145 children aged 6-16 years and 20 adults in two different locations, Areyonga Settlement (low contact) and Hermannsburg Mission (high contact). A reference group of 80 European children was tested in Canberra. Results - in both Europeans and Aborigines the stages described by Piaget are found in the same order and the reactions, answers and explanations given correspond. The rate at which the concepts under study develop in Aboriginal children however is very

slow and is asymptotic at higher ages. Failed to confirm de Lemos' finding re the reversal between quantity and weight. The influence of European contact becomes statistical significant only after age 10-11. Influence of European contact is more marked where concepts less relevant to the Aboriginal culture are concerned viz. logico-mathematical concepts. In both Aboriginal samples the children developed spacial concepts earlier than logico-mathematical whereas the reverse applied in the Canberra sample.

9. DASEN, P.R. Biology or Culture? Interethnic psychology from a Piagetian point of view. Canadian Psychologist. 1973, 14, 2, 149-166. (French).

Analyses the question of universality of Piagetian cognitive structures by reviewing recent studies by the author and other researchers. Many results show that the development of the sensorimotor and the concrete operational stage is universal, at least from a qualitative point of view (the structure of the stages and their succession). However, other studies show the cultural relativism of Piagetian cognitive structures: the speed of development of concrete operations changes as a function of acculturation and ecological and cultural needs, which enhance certain cognitive areas over others. (Psychological Abstracts).

10. DASEN, P.R., de Lacey, P.R. and SEAGRIM, G.N. Reasoning ability in adopted and fostered Aboriginal children. In Kearney, G.E. de Lacey, P.R. and Davidson, G.R. The Psychology of Aboriginal Australians. 1973, John Wiley, pp. 97-104.

Thirty-five children adopted or fostered early in infancy (mean age at adoption 18.5 months) by European families were Ss Age range 5-14. Given tests: conservation of quantity, conservation of weight, horizontality, seriation, reclassification, and Peabody Picture Vocabulary Test. Results compared with Aboriginal data available. Conclude that children of Aboriginal and of mixed European-Aboriginal descent, raised in European families from an early age, are able to profit as much as the intellectual opportunities offered to them as are children of European descent.

11. DASEN, P.R. The influence of ecology, culture and European contact on cognitive development in Australian Aborigines. In J.W.Berry and P.R. Dasen (eds), Culture and Cognition: Readings in Cross-Cultural Psychology. Methuen, London, 1974, pp. 381-408.

Describes a study of cognitive development in two groups of AUstralian Aborigines differing in amount of European contact, and attempts to relate the rate of development of different areas of cognitive development to cultural-ecological characteristics. Results of the study indicate that the extremely slow rate of development found in Aboriginal subjects points to the fact that social and cultural factors are more important for cognitive development than Piaget had hypothesized.

12. DAVID, K.H. Effect of verbal reinforcement on Porteous Maze scores among Australian Aborigine children. Perceptual and Motor Skills. 1967, 24, 986.

The Maze Test (Vineland Revision) was administered to 46 Australian Aborigine grade school children (17 males, 29 females) 8-15, living on Palm Island. One half of the Ss were given immediate positive reinforcement by E each time they correctly traced a maze. The other Ss received no reinforcement. Results showed no significant difference between the two groups on performance and suggest that Ss were performing at an optimal level under both treatments. (Journal abstract).

13. DAVID, K.H. and BOCHNER, S. Teacher ratings of IQ and Porteous Maze scores of Pitjandjara children. Perceptual and Motor Skills. 1967, 25, 639-640.

This study investigated the Maze as a measure of general intelligence (g) among Central Australian Aboriginal children. 26 Ss (7 to 12 yr) were ranked on g by their teacher and given the Maze Test. A significant rho of .39 ($p. < .05$) indicated a moderate relationship between the teacher ratings of g and the test quotients of the Maze. The importance of the relationship is increased when one considers the difficulty of the ranking task, e.g. cultural differences between teacher and children, large class-size, and wide age-range of the children. The results give further evidence for the use of the Maze as a cross-cultural measure of g. (Journal abstract).

14. DE LACEY, P.R. Environment and logical thinking among Aboriginal children. Paper read before the Annual Conference of the Australian Institute of Aboriginal Studies, Canberra, 27th May, 1970.

An assessment was made of the development of logical thinking of two samples of full-blooded Australian Aboriginal children, one sample living in an isolated, rural, mainly Aboriginal community, and the other sample living in much closer contact with Europeans and their technology. Similar assessments were also made of two samples of European children, identified as high- and low-socioeconomic. The measure of logical thinking was a battery of classificatory tests developed by Inhelder and Piaget. Marked differences in performance were found between the two Aboriginal groups, especially in a test of multiple classification. A small sub-sample of very high-contact Aboriginals performed at least as well as white Australian children living in a similar environment. (Author abstract).

15. DE LACEY, P.R. CLassificatory ability of high-contact Aboriginal children in the Northern Territory. Report presented to the Australian Institute of Aboriginal Studies, January 1971.

Tested 63 full-blooded Aboriginal children living in or close to Alice Springs and Darwin with the PPVT and two classification tests (the multiple-class or matrices tests and the Nixon test of re-classification). 25 low socio-economic white children from Alice Springs were given the PPVT only. Overall index of contact of the Aboriginal children was estimated at .87. Concluded that full-blooded Agoriginal children who have a high degree of contact with Europeans and their cultured artifacts are likely to perform about the same on tests of classificatory ability, despite markedly lower scores on verbal intelligence. An implication is that the tests of verbal intelligence do not provide adequate information about the cognitive development of such Aboriginal children despite a substantial relationship between classification tests and verbal-intelligence tests within the population of Aboriginal children.

16. DE LACEY, P.R. Verbal intelligence, operational thinking and environment in part-aboriginal children. Australian Journal of Psychology. 1971, 23, 2, 145-149.

A test of verbal intelligence, and a test of classificatory ability based on Piaget's theory, were given to low socioeconomic rural European children and to reserve- and town-dwelling part-Aboriginal children. On both tests, the Europeans performed best and the reserve part-Aboriginals worst. Rural part-Aboriginals are thus too heterogeneous to be considered as a single population in studies of cognitive development. Correlations between scores on the two tests were low. (Author Abstract).

17. DE LACEY, P.R. The relationship between classificatory ability and verbal intelligence. International Journal of Psychology. 1972, 7, 243-246.

Selected 5 groups of 5-11 year olds from different parts of Australia (including Aboriginies from Bourke N.S.W. and the N.T. varying in environmental enrichment (as determined by parental income, location, native language, and kind of home dwelling). Ss took the PPVT and a classification test of the Piagetian type to determine whether a relationship exists between performance on intelligence and Piagetian tests among relatively homogeneous groups of children differing in environmental enrichment. Correlational results reveal a tendency for advantaged Ss to perform uniformly well on both verbal or operational tests. Disadvantaged Ss performed less well on both kinds of tests, although the uniformity was less evident as the disadvantaged level becomes more marked. Results suggest that size of the correlation is a probable function of the degree of children's environmental enrichment. (Psychological Abstracts).

18. DE LACEY, P.R. A cross-cultural study of classificatory ability in Australia. Journal of Cross-Cultural Psychology. 1970, 1. 4. 293-304.

An assessment was made of the development of logical thinking of four samples of Aboriginal children. Two of these were samples of full-blooded Australian Aboriginal children, one sample living in an isolated, rural, mainly Aboriginal community and the other sample living in much closer contact with Europeans and their technology. The two samples of European children were identified as high- and low-socioeconomic. The measure of logical thinking was a battery of classification tests based on tests developed by Inhelder and Piaget. Marked differences in performance were found between the 2 European and the 2 Aboriginal groups, especially on a test of multiple classification. A small sub-sample of very high-contact Aboriginals performed at least as well as white Australian children living in a similar environment. Environmental differences between the four populations sampled were considered to have been a major influence in the performance differences found. (Author Abstract).

19. DE LACEY, P.R. Classificatory ability and verbal intelligence among high-contact Aboriginal and low socio-economic white Australian children. Journal of Cross-Cultural Psychology. 1971, 2, 4, 393-396.

Two tests of classificatory ability based on Piaget's cognitive development theory, and the Peabody Picture Vocabulary Test (PPVT), were administered to 40 full-blooded urban Aboriginal children in the Northern Territory of Australia. The PPVT was also given to 80 white urban children of similar low-socio-economic status. A trend in an earlier study for high-contact Aboriginals to perform on classification tests at about the same level as white children in a similar environment was confirmed, despite the markedly lower verbal I.Q. scores of the Aboriginal children. (Author Abstract).

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20. DE LACEY, P.R., NURCOMBE, B., TAYLOR, L.J. and MOFFITT, P. Effects of enrichment preschooling: An Australian followup study. Exceptional Children. 1973, 40, 3, 171-176.

After attending a rural compensatory preschool for 5 half days a week over one year, Australian Aboriginal and white 5-6 yr old children (n=24) showed substantial gains on tests of vocabulary, auditory association, grammatic closure and operational thinking. Tests (PPVT, Nixon test, ITPA, Weschler Primary and Preschool Scale of Intelligence) repeated 8 months later when Ss were at primary school showed marked erosion on auditory association and grammatic closure but little erosion on vocabulary or operational thinking. Scores of the black Ss tended to erode more than scores of the white Ss. The erosion was attributed to failure to correct life style deficits. (Journal abstract).

21. DE LACEY, P.R. and TAYLOR, L.J. Three dimensions of Aboriginal intelligence. Paper presented to the General Meeting of the Australian Institute of Aboriginal Studies, Canberra, May 24, 1972. (see also Taylor, L.J. and De Lacey, P.R. (49)).

The method adopted was to administer a test of verbal intelligence, a test of classification and tests of creativity to 30 Aboriginal and 30 low socioeconomic white children aged 6, 8 and 10 attending the same school. Scores from the three kinds of tests were correlated with each other to determine the degree of relationship between any two of them; and differences were sought between age ranges and ethnic groups on each of the three kinds of groups. The results showed that, at all age levels, there was a substantial and significant difference in PPVT IQ scores between Aboriginal and LSE white children, there was no difference in either the Piagetian scores or the creativity scores.

22. DE LEMOS, M.M. Conceptual development in Aboriginal children. Implications for Aboriginal education. In S.S. Dunn and C.M. Tatz (eds), Aborigines and Education. Melbourne, Sun Books, 1969, pp. 244-263.

Discusses some of the confusion in the discussion of Aboriginal intelligence and achievement in terms of a wider confusion over the question of the nature of intelligence. Reports the results of a study using Piaget's tests of conservation of quantity, weight, volume, length, area and number applied to Aboriginal children from 8-15 years attending school at the Elcho and Hermannsburg missions in the Northern Territory. Results show that very few Aboriginal children achieved conservation on any of the tests before the age of about 10 or 11 years, and that a number of children even up to the age of 15 years showed non-conservation on all the tests. There was a general tendency for conservation to be achieved with increasing age, but there was not necessarily a uniform improvement with age. Criticisms of cross-cultural studies such as this are discussed, as are implications for Aboriginal intelligence and Aboriginal education programs.

23. DE LEMOS, M.M. The development of conservation in Aboriginal children. International Journal of Psychology. 1969, 4, 255-269. (See also Kearney, G.E. de Lacey, P.R. and Davidson, G.R. The Psychology of Aboriginal Australians. John Wiley, 1973, pp. 71-88).

145 8-15 year old subjects, from two Aboriginal settements took tests based on Piaget's studies of conservation of quantity, weight, volume, length, area and number. Results generally offer support for Piaget's stages, though conservation (especially of area) tends to develop much later in Aboriginal subjects than in European subjects and in some cases does not develop. A further discrepancy involves failure to find an invarient order of development among Aborigines for conservation of quantity and weight. Education, language and genetic factors offer possibilities that may account for differences between European and Aboriginal subjects. (Psychological Abstracts).

24. DE LEMOS, M.M. The educational achievement of Aboriginal primary school children. Aboriginal Education Project. Summary Report of the 1971 Testing Program. Australian Council of Educational Research, November 1972.

Reports on study of the educational achievement of Aboriginal children in Victorian primary schools. Ss (150) were drawn from all Victorian primary schools having 10 or more Aboriginal pupils enrolled. From these 20 schools all available Aboriginal children in Grades 2, 4 and 6 were selected for testing. An equal number of white Australian children were selected at random from each of the classes from which the Aboriginal children were drawn to act as a control group. A series of general ability and school achievement tests were administered to all the children in the sample. Results showed significant differences between Aboriginal and control groups on all tests administered. Findings indicate a need for special education programs to improve the educational achievement of Aboriginal children. Suggests that as preschool programs are not necessarily effective in reducing differences between advantaged and disadvantaged children, particularly if not followed up by appropriate programs in the primary school level, it would seem that more emphasis should be placed on the need for intensive remedial programs throughout the primary school.

25. DEPARTMENT OF EDUCATION, QUEENSLAND, BERNARD VAN LEER PROJECT. Research Report on Some Aspects of the Language Development of Pre-School Children. Brisbane 1970. (See also ERIC Microfiche ED 087 020).

This study identified structural units of language as they appeared in the speech of 2-5 year old pre-school white children in Brisbane. Electronic equipment was used to record the speech samples, which were transformed into 3 separate language concordances by computer analysis. These structural units of language were then compared with those evident in the speech of 4 yr old Aboriginal children. The evidence suggested that the development of structural units of standard Australian English manifested by the Aboriginal children was well below that of average white children. References are made to some implications for the development of compensatory language programs for Aboriginal children. (ERIC Research in Education).

26. DEPARTMENT OF EDUCATION, QUEENSLAND, BERNARD VAN LEER PROJECT Research report on some effects of an experimental language development program on the performance of Aboriginal children in their first year at school. Brisbane, December, 1972.

Reports a research and development project at the Cherbourg and Palm Island community schools to explore ways of promoting the children's psycholinguistic development and academic attainment. Psycholinguistic testing revealed that Aboriginal school entrants tended to be relatively proficient in abilities which depend on visual skills, immediate memory, and expressive skills. However they tended to be considerably less proficient in verbal abilities involving comprehension, production and meaningful association of Standard English vocabulary and language structures. An experimental compensatory program wasintroduced at the two communities with the aim of improving the children's facility with Standard English on the assumption that this would contribute to an improvement in reading and other aspects of academic performance. A comparison group from each of the communities was used for evaluation of the program. Test results of the experimental group children at school entry and after one year at school showed their levels of performance had increased dramatically after experience with the short compensatory program. The fact that so many children experienced success in contrast to the failure experienced by so many of the comparison group during their first year at school is further evidence of the success of the program.

27. DRINKWATER, B.A. Word Associations of Aboriginal adolescents: A comparison with Australian and American norms. Australian Psychologist. 1972, 7, 3, 190-193.

Examined differences in verbal association habit patterns for culturally disadvantaged Aborigines and white adolescents as determined by word association test. 38 8th grade Aborigines (mean age 14 years) and 38 8th grade white children (mean age 13 years) served as subjects. The word association test consisted of 55 words administered to both groups. Results indicate a high degree of similarity in the content of associative hierarchies: 33 stimuli elicited identical primary responses. In all but 5 of the 22 cases where the 1st order responses were different, each occured within the first 4 ranks of the associative hierarchy of the other group. It is concluded that the overall consistency of primary verbal association habits across ethnic, national, social status and chronological age groups, suggests that w-a norms could be utlilized more freely in the preparation of reading materials and language development programs for disadvantaged children. (Psychological Abstracts).

28. DRINKWATER, B.A. Language development in Aboriginal children as assessed by Klang responding in a word association test. Australian Psychologist. 1973, 8, 238-245.

Administered a multiple-response free association test to 23 second graders in Townsville and 23 second graders on Palm Island Aboriginal Reserve. Subjects were chosen at random with a mean chronological age of 7.0 years for the Aboriginal group and 7.2 years for the white group. Group klang responses (nonsense or rhyming responses which had a phonetic rather than a semantic relationship to the stimulus work) were solicited from each group. Mean differences on the responses per stimulus were found between the two groups and on the free association test. Group klang responses were essentially the same. (Psychological Abstracts).

29. EDWARDS, L.D. Malnutrition and disease in pre-school Aboriginal children in the Walgett area of N.S.W. The Medical Journal of Australia. 1970, 2, 1007-1012.

A medical survey of pre-school Aboriginal children in the Walgett area has revealed a high incidence of ear infection, respiratory infection and gastroenterities; 31% of the children showed evidence of malnutrition. The significance of these findings is discussed, and the recommendations are made for dealing with these problems. (Journal abstract).

30. EDWARDS, L.D. and CRADDOCK, L.J. Malnutrition and intellectual developments: A study of school-age Aboriginal children at Walgett, N.S.W. The Medical Journal of Australia. 1973, 1, 880-884.

A survey of 281 Aborigines attending the infants primary school at Walgett N.S.W. has shown a significant incidence of malnutrition as evidenced by body growth retardation and small brain size. I.Q. testing done on a group of malnourished subjects, as well as a control group matched for age, sex and social status, has shown that the results in the malnourished group were significantly lower than in the control group which supports the hypothesis that malnutrition in the Walgett Aborigines has caused a specific defect in intellectual development. (Journal abstract).

34. GRACEY, M. Experiment on the Darling. The Medical Journal of Australia. 1974, 1, 402-404.

Summarizes the work of Nurcombe et al (45) in the Bourke Preschool Project and the criticisms of Kerr (32) of the interpretations made by the Bourke group. Suggests that the Nurcombe-Kerr debate runs the risk of distracting the attention from the pressing practical problems of how best to educate children of Aboriginal descent. Believes that the approach to the overall problem must be broadly based and accompanied by a general elevation of the living standards and long-term prospects for advancement of the community and that any plan adopted will need to be executed with careful planning, patience and sensitivity.

32. KERR, C. Cultural interaction in Aboriginal education: Dreamtime in Bourke? The Medical Journal of Australia. 1974, 1, 395-397.

Criticizes the reports by Nurcombe et al (45) on the Bourke Preschool Project. Maintains there are reservations about the value of the teaching experiment. Believes they are "under the extraordinary delusion that their own and similar findings on Aboriginal can be can be used to dispute views from the international debate on race and intelligence...Practically everything Nurcombe et al concluded about racial differences in intelligence can be disputed most strongly."

33. KETTLE, E.A. Weight and height curves for Australian Aboriginal infants and children. The Medical Journal of Australia. 1966, 1, 972-977.

Mean weight and height curves with standard deviations have been derived for both male and female Australian Aboriginal infants and children up to the age of 5 years. These show that Aboriginal infants, with a mean birth weight of 6 lb 5.5 oz. grow rapidly and almost double their birth weight at 3 months of age. From 5 months onwards, the expected weight increments, in comparison with white Australian children, are much lower, hence at 5 years of age Aboriginal children weigh 5-6 lb less than their white Australian counterparts. Mean height curves for Aboriginal children follow closely the mean height curves for white Australian children. (Journal abstract).

34. KIRKE, D.K. Growth rates of Aboriginal children in Central Australia. The Medical Journal of Australia. 1969, 2, 1005-1009.

Some growth parameters of 870 full-blooded Aboriginal children are reported and an overrepresentation in the low percentiles is demonstrated. The morbidity and mortality amongst these children are highest in the group which is failing to thrive. It is suggested that the poor physical development is largely due to undernutrition, and that most of the morbidity and mortality is due to infection in synergism with undernutrition. (Journal abstract).

35. McELWAIN, D.W. and KEARNEY, G.E. Intellectual development. In Kearney, G.E. de Lacey, P.R. and Davidson, G.E. The Psychology of Aboriginal Australians, 1973, John Wiley, pp. 43-56.

Looks at question of Aboriginal children having on average a lower mean score on intelligence than do Australian children of European descent. Discusses the Queensland Test; the genetic and environmental contributions to intelligence; sets up a statistical model concerning differences and similarities in intelligence test performance between Australians of Aboriginal and European descent; suggests that the lower scores are due to the Aboriginal child coming to a European-type education lacking many of the experiences which may be taken for granted in a European child. Suggests (a) increasing the amount of kindergarten and preschool provision for Aboriginal children, (b) providing a preschool and infant education which places considerable weight on the acquisition of linguistic and quantitative skills and (c) provide for more visual-auditory concrete aids than are usually available in schools.

36. McELWAIN, D.W. Some aspects of the cognitive ability of Aboriginal children. In S.S. Dunn and C.M. Tatz, (eds). Aborigines and Education. Sun Books, Melbourne, 1969, pp. 264-271.

Argues that superior European performance on tests is not due to a genetic factor or factors but is due to the relevance of European-type experiences to the solution of intelligence test problems as they are set, and that there is not incontrovertible evidence at all of Aboriginal inferiority in general cognitive capacity. Establishes a model of genetic and environmental factors. Suggests ways of providing experiences so that the Aboriginal child is not handicapped by his environment.

37. MOFFITT, P. and NURCOMBE , B. Action research; A preschool for rural Aborigines and Europeans. Australian Psychologist. 1970, 5, 3, 243-248.

Describes the establishment of a preschool kindergarten involving the active participation of Aborigines and Europeans in a rural area of N.S.W. About 45 4 years olds were enrolled in 1970. Half the Ss were being exposed to conventional preschool kindergarten activities, involving free play in a environment enriched with appropriate equipment. The other half were in a more structured classroom situation, stressing direct language stimulation. The two programs were compared for effectiveness in terms of I.Q. and language gains. It is concluded that of great importance was attention to differing cultural values. The success of the program was evaluated in terms of its acceptance by the majority of families who enrolled their children, including Aboriginal families. (Psychological Abstracts).

38. MOFFITT,P., NURCOMBE, B., PASSMORE, M. and McNEILLY,A. Intervention in cultural deprivation: The comparative success of pre-school techniques for rural Aboriginals and Europeans. Australian Psychologist. 1971, 6, 1, 51-61. (See also Kearney et al. The Psychology of Aboriginal Australians. 1973, Wiley, pp. 137-146).

Two pre-school programs, one traditional and the other structured (using Bereiter-Englemann techniques) were applied to a sample of culturally deprived rural Aboriginal and European children. The results were evaluated in terms of language development and visual-motor performance. The traditional group made some significant gains in language development, while the structured groups showed significantly greater gains than the traditional group in most of the areas tested. Visual-motor performance, as measured, was not affected in either group. (Author summary).

39. MONEY, J. and NURCOMBE,B. Ability tests and cultural heritage: The Draw-A-Person and Bender Tests in Aboriginal Australia. Journal of Learning Disabilities. 1974, 7, 5, 297-303.

Contends that apparent learning disability, as measured by European and American tests and examinations, may represent a false positive and artifact of the testing when the Ss are members of an ethnic culture in which traditions of skills and knowledge do not match those of the culture who devised the test. A study of 76 11-15 year old Australian Aborigines is reported to demonstrate that the Draw-A-Person test and the Bender Gestalt Test can give authentic estimates of abilities cross-culturally. It is suggested that in non-minority cultures, the same relationship between ability estimates and culture may be relevant to the testing of a child with a learning disability, because a learning disability may be the specific response of a child to his family's inchoate, covert, and paradoxical tradition, directive or taboo against a specific facet of learning. (Journal abstract).

40. MOODIE, P.M. Mortality and morbidity in Australian Aboriginal children. The Medical Journal of Australia. 1969. 1, 180-185.

The Aboriginal and part-Aboriginal population comprises about 1% of the Australian total, but contributes over 2% of the births. It is estimated that from the Aboriginal children come at least 10% of all infant deaths, at least 28% of second-year deaths and about 9% of deaths in the 2-4 years age group. The commonest causes of death in the under-five years age group are pneumonia, gastroenteritis and neonatal diseases - the majority of these being theoretically preventable. The morbidity pattern is characterized by a high prevalence of chronic infections and infestations, anaemia, malnutrition and dental disease, upon which are superimposed the recurrent acute infections commonly listed as the causes of death in childhood. In spite of a high mortality in childhood the Aboriginal population is increasing at a rate of about 3% p.a. The ecological picture is one of human waste, and incipient "high output failure". (Journal abstract).

41. NURCOMBE, B. Deprivation: An essay in definition with special consideration of the Australian Aboriginal. The Medical Journal of Australia. 1971, 2. 87-91.

Deprivation is defined, and divided into three broad types - physical, psychosocial and sociocultural. The effects of the three types of deprivation are discussed and illustrated. There can be no solution of the problem unless it is considered in its totality. (Journal abstract). (This is an elaboration of the first part of Nurcombe and Moffitt, 46).

42. NURCOMBE, B. Precausal and paracausal thinking. Australian and New Zealand Journal of Psychiatry. 1970, 4, 70-81. (See also Kearney, et al, The Psychology of Aboriginal Australians. 1973, Wiley, pp. 105-123.

Utilized questionnaire developed and described by Laurendan and Pinard, using the first four of the topics (dream, life, night, clouds) Ss were 21 Aboriginal children (11 boys, 10 girls) from Elcho Island, Northern Territory. Children were interviewed individually by one examiner and their stages of development rated using the criteria employed by the original workers. Compared with a Canadian sample these Aboriginal children were 'retarded' with regard to their concepts of the nature of life and of the origin of night, relatively 'retarded' in their understanding of the nature and origin of dreaming, and there was no significant difference in their comprehension of the movement of clouds. A number of factors are discussed in accounting for this relatively lower level of concept development.

43. NURCOMBE, B. Childhood and adolescence on Elcho Island. Australian and New Zealand Journal of Psychiatry. 1973, 7, 2, 84-86.

Describes field studies of psychosocial development of the people of Elcho Island, an Aboriginal community with a population of approximately 1000, off the coast of Australia. Sexual deviance and disturbances and the need for competitive achievement were found to be relatively absent from the society.

44. NURCOMBE, B. Cultural identity: Race, intelligence and education: A reply. The Medical Journal of Australia. 1974, 1, 397-402.

Discussion of issues in response to Kerr's criticism (32) of Nurcombe et al (45). Makes a statement introducing the background to the debate provoked by Jensen in order to clarify issues including the question as to whether the Bourke team can be labelled as "environmentalists", "interactionists" or whatever. Comments on a number of technical issues raised by Kerr.

45. NURCOMBE, B., DE LACEY, P.R., MOFFITT, P. and TAYLOR, L. The question of Aboriginal intelligence: The first three years of the Bourke preschool experiment. The Medical Journal of Australia. 1973, 2, 625-630. (See also The Aboriginal child at School. 1975, 3, 1, 3-18.)

The argument concerning the alleged genetically determined difference in intelligence between whites and blacks is discussed. Alternative explanatory models are presented and discussed, and the validity of cross-cultural testing is considered. The rationale for the establishment of an experimental preschool in Bourke, N.S.W. is presented. The language development programs used in three successive years are described and the results of the programmes clearly demonstrate the possibility of the amelioration of cognitive disadvantage. The project as a whole is assessed and the proposition of the immutability of genetically determined racial differences in intelligence is refuted as an intellectual cul-de-sac. (Journal abstract).

46. NURCOMBE, B. and MOFFITT, P. Cultural deprivation and language defect: Project Enrichment of Childhood. Australian Psychologist. 1970, 5, 3, 249-259.

Describes one of four Aboriginal ways of life, the fringe-dwellers. Traditional Aboriginal folkways have been supplanted in this way of life by a culture of proverty. Attitudes harboured by these people and their way of life are described. The area of preschool education is noted as a special problem area and various approaches to this problem under the auspices of the University of N.S.W.are reported. An evaluation of this program is included. (Psychological Abstracts.)

47. SCOTT, P.M. and DARBYSHIRE, M. Early Education Programs and Aboriginal Families in Victoria. Report on the Bernard Van Leer Foundation Pre-school Projects, Monash University, 1969-1972. (See also ERIC microfiche 093 466).

This report summarises some of the thinking, data, problems and other factors affecting the field work of a 4 year study of preschool programs with Aboriginal families in Victoria. The project aims included (1) establishing positive communication with part-Aboriginal families in Victoria, in order to understand what planned educational contributions might appropriately be made to families with young children; (2) developing tentative preschool programs which, while allowing such communication, would provide some immediate educational support and create bases for developing future work; (3) defining issues needing consideration in educational work with part-Aboriginal adults and children, and trying to develop a frame of reference which would help resolve some of the controversy surrounding experimental preschool programs; and (4) obtaining descriptive information relevant to these issues in education and psychological research. In addition, the emphasis of this report is a descriptive analysis of some current problems affecting progress with field work, such as: clarifying purposes and bases for action, selection and review of tests, teaching programs and field work problems, follow-up studies, and establishing guidelines for further action. (ERIC Research in Education).

48. STUART, J.E., QUALE, C.J. LEWIS, A.N. and HARPER, J. Health, hearing and ear disease in Aboriginal school children. The Medical Journal of Australia. 1972, 1, 855-859.

A survey of 100 Aboriginal primary school children living on a Queensland settlement revealed that a high proportion of the children were below the expected norms for height, weight and head circumference. 18 children had perforated tympanic membranes, and a further 21 children had otological abnormalities. 41 children had some degree of deafness,which was more prevalent in the younger group. (Journal abstract).

49. TAYLOR, L.J. and DE LACEY, P.R. Three dimensions of intellectual functioning in Australian Aboriginal and disadvantaged European Children. Journal of Cross Cultural Psychology. 1974, 5, 1, 49-58.

Administered the PPVT and measures of operational and divergent thinking (e.g. Rorschach Test) to 30 Aboriginal and 30 disadvantaged European 6-, 8-, and 10 year old children living in Australia. Scores from the 3 types of tests were intercorrelated and differences between ethnic and age groups were evaluated. With the exception of a correlation between the Matrices Test by de Lacey and the PPVT, all correlations support previous findings that there are relatively few similarities between these tests. Aboriginal Ss had significantly lower scores on the PPVT than the European children, but not on any of the other measures. (Psychological Abstracts).

50. TAYLOR, L.J. and DE LACEY, P.R. Divergent thinking in Aboriginal children. Australian Psychologist. 1973, 8, 1, 42-45.

30 Aboriginal children age 6, 8 and 10 and 30 white children matched for age, sex and socioeconomic status were given a test of verbal intelligence and one of divergent thinking. Results show substantial and significant differences between the white and Aboriginal children in terms of mean PPVT IQ scores. But no significant differences between the means of the two groups on the divergent thinking measures. Suggest that appropriately designed curriculum, which stimulates divergent approaches to problem solving, may encourage greater educational progress in Aboriginal children.

51. TAYLOR, L.J. DE LACEY, P.R. and NURCOMBE, B. An assessment of the reliability of the Peabody Picture Vocabulary Test. Australian Psychologist. 1972, 7, 3, 167-169.

PPVT is useful for groups such as Aborigines and other withdrawn children since it requires a pointing rather than a verbal response. Notwithstanding the somewhat restricted nature of the sample, the consistent results throughout the four age ranges tested suggest that the PPVT is a highly reliable test for Australian children.

52. TAYLOR, L.J. DE LACEY, P.R. and NURCOMBE, B. The effects of the Bereiter-Englemann Program on the development of creativity. Australian Psychologist. 1974, 9,3, 42-46.

The study compares divergent thinking abilities of Aboriginal and white children who have attended a preschool using the Bereiter-Englemann program, with a matched sample who have had no preschool experience. The results indicate that the criticism that the Bereiter-Englemann program inhibits creativity is unfounded. The possibility exists however that a traditional preschool environment might in some way facilitate the development of divergent thinking in a way in which the Bereiter-Englemann program has failed to do.

53. TAYLOR, L.J., NURCOMBE, B., and DE LACEY, P.R. Classification ability in Aboriginal children: A re-evaluation. Australian Psychologist. 1973, 8, 246-249.

Re-examined the question of whether Aboriginal children living in close contact with European society perform as well on Piagetian tests of classification as low socio-economic white children. An attempt was made to establish that Aboriginal children who have undergone the experience of the preschool would score at least as well as low socio-economic white children who have not undergone preschool experience. The PPVT and a test of reclassification were used to test the two groups. Results on both tests indicate that white Ss without preschool experience scored higher than Aboriginal preschoolers. The need for a more detailed examination of the relationship between environment and classifying ability is noted. It is suggested that a more intensive preschool program and follow up may be necessary to overcome the deficit in cognitive processes in Aboriginal children. (Psychological Abstracts).

54. TAYLOR, L.J., NURCOMBE, B.J., and DE LACEY, P.R. The ethics of pre-school intervention: Project Enrichment of Childhood, Bourke, N.S.W. Australian Journal of Social Issues. 1974, 9, 1, 29-34.

The present paper examines the question of intervention in the learning process by disadvantaged children by presenting a description of programmes and results from the experimental pre-school at Bourke, N.S.W. The preschool attempts to provide the children with a choice of linguistic codes by teaching them the characteristics of elaborated formal English. The programme does not replace the restricted code but builds on it. Results are presented which indicate that a highly structured programme is more effective in accomplishing this goal. The problems associated with the research project and attempts to solve them are also discussed. (Author summary).

55. TEASDALE, G.R. and KATZ, F.M. Psycholinguistic abilities of children from different ethnic and socio-economic backgrounds. Australian Journal of Psychology. 1968, 20, 3, 155-159.

First grade children of different socio-economic status and different ethnic background were compared on two tests of language ability; the PPVT and the ITPA. On these tests, lower SES and part-Aboriginal children performed at significantly lower level than upper SES children. Utilizing ITPA subtest scores, it is evident that this significant difference was the result of low achievement on sub-tests measuring the auditory and/or vocal components of psycholinguistic ability. On subtests measuring visual and/or motor components differences between the groups were minimal. The results supported the contention that familial experiences differentially affect language skills. (Journal abstract).

56. TEASDALE, G.R. and DE VRIES, G.J.A. The use of the Illinois Test of Psycholinguistic Abilities with Australian Aboriginal Children. Paper prepared for the Cognition Symposium of the Biennial Conference of the Australian Institute for Aboriginal Studies, Canberra May 27-28, 1974.

Discusses the conceptual basis of the ITPA and its use with children from ethnic minority backgrounds, and briefly reviews some ITPA research with Aboriginal children. Suggests that ITPA should only be used with Aboriginal children whose mother tongue is English and who are living in a predominately European context both socially and economically, and that North American norms are inappropriate for use with Aboriginal children. Also suggests that the most appropriate use of the test is in clinical situations as a diagnostic tool where specific learning disabilities are suspected. Authors also believe that considerable caution is required when using the ITPA to compare the abilities of children from different ethnic backgrounds. A brief report of some recent South Australian research using the revised ITPA is given.

57. VETTA, A. Conservation in Aboriginal children and 'genetic hypothesis'. International Journal of Psychology. 1972, 7, 4, 247-255.

A.R. Jensen and H.J. Eysenck, supporters of a genetic hypothesis with reference to race and intelligence, draw upon an investigation done by de Lemos in 1969 to confirm their belief. It is noted that the design of de Lemos's study failed to take account of several variable (e.g. age, language facility, response form, and experience with new material and tests). A number of errors entering into the analysis of data are indicated. A replication study done by P.R. Dasen in 1972 incorporated an equal number of full- and part-blooded Aboriginals in each group (including Ss who had the greatest part of European ancestry) and revealed no genetic difference. A different interpretation of the fact that full Aboriginal children who have had less historical contact with Europeans do better on conservation tests than those who have had greater contact would emphasize that the contact with Europeans occured under conditions of inequality. (Psychological Abstract).